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AUTHOR Johns, Jerry L.
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ABSTRACT

To assess whether gains in vocabulary and comprehension would result from the use of the cloze procedure as a teaching technique, 222 students in 12 fourth-grade classrooms were randomly assigned to one of four groups: a control group and groups that were taught with cloze deletion patterns involving deletion of every tenth word, deletion of modifiers, or deletion of nouns, verbs, or both. After 25 weeks of instruction consisting of 20-minute sessions twice each week, no significant differences were found in vocabulary or comprehension among the four groups. Certain problems encountered during the study, including the difficulty of finding appropriate reading materials and the lack of control of teacher effectiveness variables, may have led to the lack of significant findings. Among the strategies that teachers can use for teaching and for future research are to have students work together on cloze exercises, to develop strategies for less able students, and to work initially with materials using the students' own language patterns. Although this study showed no significant findings, the cloze procedure does have potential as a teaching technique. (GW)

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Jerry L. Johns
Northern Illinois University
Reading Clinic--119 Graham
DeKalb, Illinois 60115

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AN INVESTIGATION USING THE CLOZE PROCEDURE AS A TEACHING TECHNIQUE

The cloze procedure was originally developed by Wilson Taylor (1953). Since that time, a large number of research studies and articles have appeared in the literature. These studies have generally focused on the cloze technique in one of four ways: (1) to determine the readability of texts; (2) to measure comprehension; (3) to investigate language variables; and (4) to use cloze as a teaching technique.

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Jongsma (1971), in an effort to assist potential researchers, presented and critiqued information on the cloze procedure as a teaching technique. He listed the problems and/or weaknesses of previous cloze studies and provided suggestions for overcoming these limitations.

METHOD

Using the suggestions offered by Jongsma, a study was undertaken to assess the significance of the gains in vocabulary and comprehension when the cloze procedure was used as a teaching technique.

Three types of cloze deletion patterns were used. The first type was a random deletion pattern using every tenth word. The second type of deletion pattern consisted of three types of modifiers: (1) adjectives only; (2) adverbs only; and (3) adjectives and adverbs. The third type was a noun-verb deletion pattern consisting of three types: (1) nouns only; (2) verbs only and (3) nouns and verbs.

Subjects

The sample was originally composed of 249 students from twelve of sixteen fourth-grade, self-contained classrooms in one public school system in Illinois. Those students who did not have complete reading test data or who scored above the ninetieth percentile on the comprehension subtest pretest were subsequently dropped from the study. This resulted in a total sample of 222 students. Each of the

twelve fourth-grade classrooms was then randomly assigned to one of the cloze deletion patterns or to a control group. The table contains a further description of the sample by experimental group and sex.

Table

Distribution of Sample by Group and Sex

Group	Sex		Totals
	Boys	Girls	
Random	31	38	69
Modifier	28	27	55
Noun-Verb	28	31	59
Control	20	19	39
Totals	107	115	222

To determine intellectual capabilities, IQ scores were secured from the Lorge-Thorndike Intelligence Test which was administered during the spring of the third grade. Data were available for 195 students in the study. The mean IQ was 105.55. An analysis of variance revealed that the four groups did not differ significantly in mean intelligence ($F = .230$; $p = .545$).

To determine the present reading status for students in each of the four groups, Survey D (form 1) of the Gates-MacGinitie Reading

Test was administered as a pretest. Since the original sample was not randomly selected, an analysis of variance was conducted to determine whether or not the groups were significantly different in reading achievement. The F value obtained for the vocabulary subtest was .519 for which p was .653. Since the F value was not significant at the .05 level, there was no reason to believe that the groups differed in vocabulary.

Similarly, an F value was obtained for the comprehension subtest. The F value was .438 for which p was .911. Since the F value was not significant at the .05 level, there was no reason to doubt the equivalence of the groups in reading comprehension.

To summarize, although the original sample of twelve classrooms was not randomly selected, assignment of each classroom to one of the four treatment groups was done randomly. ANOVA statistical tests were then conducted on the mean intelligence, vocabulary, and comprehension scores. No significant differences were found.

Procedure

After the four groups were selected, teachers involved in the study attended an instructional inservice session. The orientation to the study included: (1) rationale for cloze; (2) procedural plan of the study; and (3) demonstration and explanation of teaching techniques. A demonstration was presented in which teachers completed an oral cloze exercise. An attempt was made to parallel the method that would be used in the study proper. The simulation consisted of the following steps: (1) oral reading of the entire

passage; (2) discussion of the closures; (3) discussion of reasons for the closures; and (4) discussion of appropriateness of answers.

The written cloze exercises used with the students consisted of the following steps: (1) teacher reads the exercise orally; (2) students complete closures independently; and (4) the class discusses appropriateness of responses.

Procedural consistencies were sought by adopting the following controls: (1) Fry and Dale-Chall readability formulas were applied to project materials; (2) a standard blank of fifteen spaces was used for each closure; (3) each deletion pattern was structured from a common paragraph; (4) the number of deletions in the various exercises were approximately equal; (5) two twenty-minute sessions were held weekly; and (6) individual written lessons were typed on stencils and reproduced for classroom use.

Near the middle of the study the researcher scheduled a second workshop. The workshop included the results of the pretest, student progress percentage charts, teacher concerns, and additional teaching suggestions.

The researcher designed a twenty-seven week plan, three weeks of which were for testing. It was requested that the participating teachers conduct two lessons per week with a maximum of twenty minutes per lesson. After eleven weeks of instruction, form 2 of the Gates-MacGinitie Reading Test was administered to the three groups that had completed cloze exercises. After twenty-five weeks of

instruction, form 3 of the Gates-MacGinitie Reading Test was administered to the three experimental groups and to the control group. The two hypotheses sought to determine the significance of the gains in vocabulary and comprehension after: (1) eleven weeks of instruction, and (2) twenty-five weeks of instruction.

RESULTS

This investigation sought to evaluate the significance of the gains in vocabulary and comprehension after eleven and twenty-five weeks of instruction when three cloze deletion techniques were used for instructional purposes. A control group was also used. The .05 level was used for rejecting each null hypothesis.

The first hypothesis tested the significance of the gains in vocabulary and comprehension after eleven weeks of instruction. Results of ANOVA tests revealed no significant vocabulary ($F = 2.81$; $p = .06$) or comprehension ($F = 1.55$; $p = .21$) differences among the three experimental groups.

The second hypothesis tested the significance of the gains in vocabulary and comprehension after twenty-five weeks of instruction. Results of ANOVA tests revealed no significant vocabulary ($F = .87$; $p = .54$) or comprehension ($F = 2.22$; $p = .08$) differences among the four groups.

DISCUSSION

The major objective of this study was to test the significance of various cloze deletion patterns on the vocabulary and comprehension

gains of fourth grade students. Inasmuch as the findings did not support the significance of any one of the cloze deletion patterns, the following comments may shed some light on why no significant differences were found.

1. A difficulty within the research design developed as the researcher and assistants attempted to adjust bi-weekly for the various levels of reading achievement that existed in the experimental groups. As the study progressed, different levels of achievement became more apparent and the gap widened. The necessity to develop three levels of materials a week became a monumental task for the assistants. It became particularly difficult to locate material that was interesting and varied.

2. The researcher and assistants projected the subjects' instructional levels at a lower level of performance than the cooperating teachers considered valid. The initial material presented was at a third grade reading level. Most of the teachers felt this was too low for the majority of their students. Consequently, the reading level of materials was raised. In retrospect, it appears that the difficulty of the material was increased too rapidly. Later, the pace was decelerated.

3. The challenge of locating meaningful deletions for the modifier pattern was a constant dilemma. Lower grade level materials did not contain many modifiers. Deleted words were frequently within adverbial prepositions. Modifier deletion patterns should be used very cautiously below the third grade reading level.

4. The discovery that available material became heavily concentrated in the field of science represented a possible problem. It might have caused a problem of motivation and interest for some students.

5. The teachers of random deletion patterns indicated that the pattern did not permit selective learning experiences. This randomization was not conducive to developing utilization of context. For example, a word randomly deleted could conceivably be unrelated to phrases prior to or after its omission. Hence, the students often had no basis for making a rational selection of a word.

6. The sophistication of the teacher's skill in developing reasoning strategies for cloze responses was also an area of concern. The researcher had no actual contact with the classroom presentations, thereby making it difficult to assess this particular variable; however, assessments were made through interviews at the workshops and via teachers' comments. Visitations would have enabled the researcher to gain a better perspective of the teaching techniques used in the classrooms.

7. The students' motivation and interest seemed to lag midway through the study. Various motivational devices such as poetry, riddles, songs, and illustrations that complemented the material were implemented. These devices seemed to increase interest of both pupils and teachers.

8. The compulsion of the students was to complete the entire

deletion pattern in order to feel successful. Teachers probably tend to reinforce this value by emphasizing the completion of "seat work". "Seat work" is defined as papers finished independently Despite the teachers telling students that only completed closures would be corrected, students still felt compelled to complete all the closures.

TEACHING STRATEGIES AND DIRECTIONS FOR FUTURE STUDIES

To enrich teaching strategies and to offer possible suggestions for future studies, the following suggestions for the classroom teacher may be helpful.

1. Divide the class into four groups. Give each student or group a copy of the cloze paragraph. Instruct each group to discuss the answers. Then one person transcribes the group's final answer. When the groups come back together, the answers should be read orally. One point is awarded for each answer that makes sense. Conceivably, each group could earn a point for the same blank even though they had four different words. The overhead can be used to compare student responses for the cloze passages.

2. A "buddy system" could evolve in which two students discuss and decide upon a common answer. This would further facilitate the reasoning process as the students discuss their rationale for cloze responses.

3. The use of the tape recorder could function in two ways for those students who have a strong auditory learning channel. The able student could work more independently, while the teacher works with

the less able learner. The less able learner could use it as a reinforcement device.

4. The initial letters for the closure could be provided for the less able students or as an introduction to the cloze procedure. The researcher realizes that studies using cloze as a teaching strategy stress the use of synonyms, but in certain cases the initial letter can help foster success.

5. The key words relating to the deleted words could be underlined to develop optimum use of context. This technique could also be used when introducing more difficult materials.

6. The cloze passages could be developed using a variety of poems, riddles, songs, play, and puzzles in order to stimulate interest.

7. The students could delete words in their creative writing. The use of their own language patterns should reduce the readability level while heightening interest. It could be introduced as a group activity, then modified to small groups and finally to independent activities.

8. The student could dictate a story to an older student. Deletion patterns could then be developed. Working initially with the student's own language patterns might provide successful experiences leading to continued motivation. It might also provide success for the student having difficulty with traditional cloze exercises.

9. The structure of the teaching program might be improved by dividing the class into two levels. The teacher could work with the one group orally, while the other group was completing the written exercises. This procedure could then be reversed on the second day of instruction.

In spite of the fact that there were no significant differences for the hypotheses tested, the cloze procedure still has potential as a teaching technique. The cloze technique is not a panacea for teaching comprehension skills, yet the researcher speculates that it can be as successful as existing strategies for improving comprehension.

Rankin (1977) has presented a number of practical suggestions for using the cloze procedure to improve comprehension. Perhaps interested researchers will design empirical studies to assess the effectiveness of his sequence strategies. In the meantime, the present study, like Jongsma's review of the literature, does not support using the cloze procedure as an effective teaching technique for improving comprehension.

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